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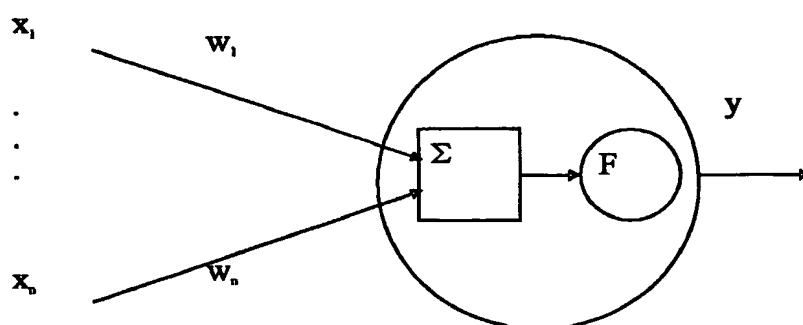


Figure 1 – Conceptual processing in classical networks

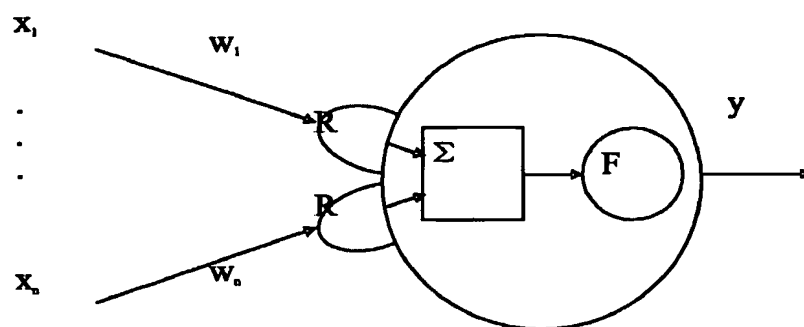


Figure 2 - Conceptual processing in classical Sine Net networks

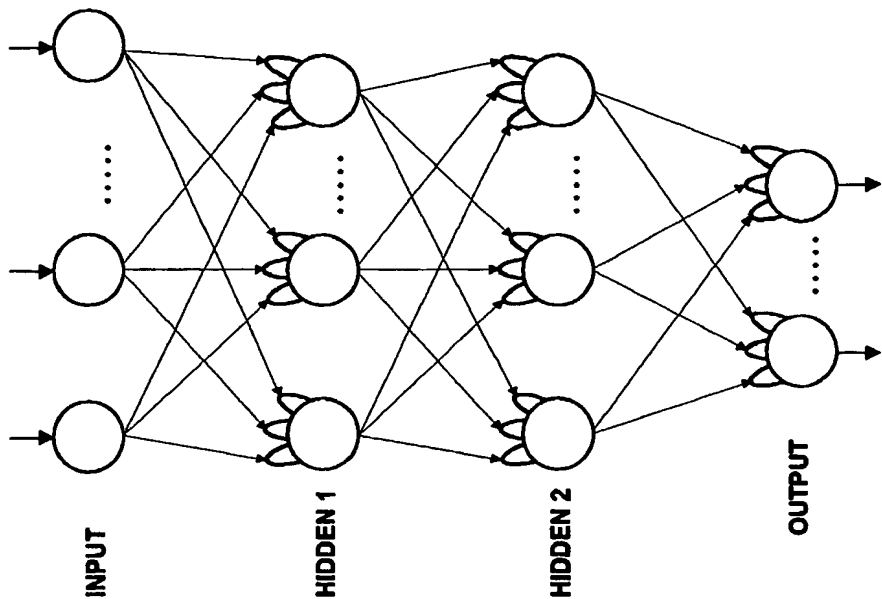


Figure 4 – Representation of a multi-layer Sine Net

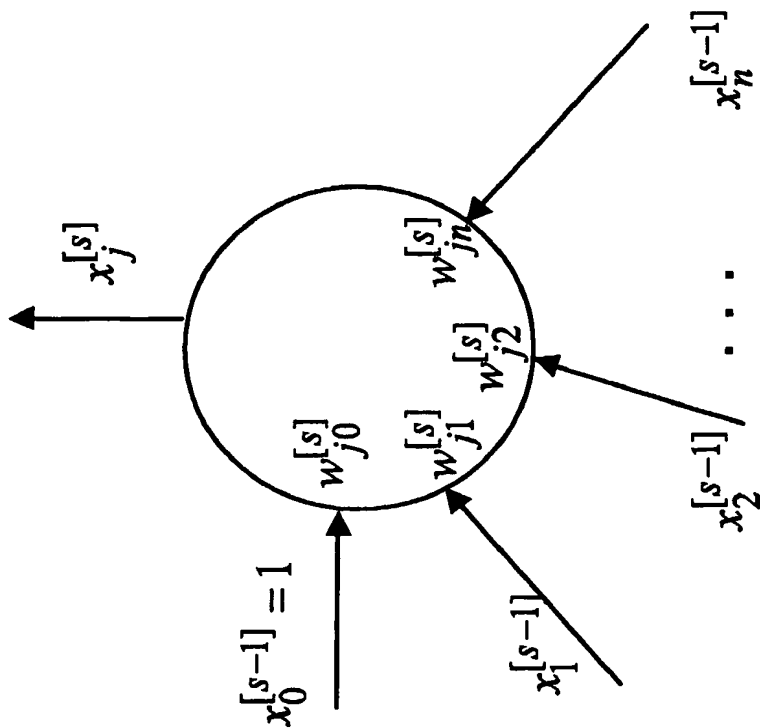
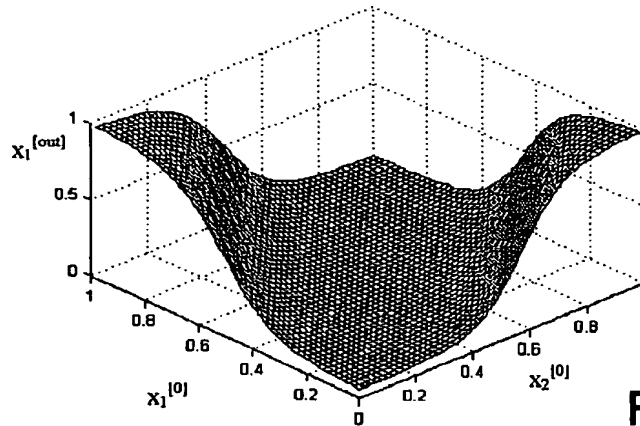
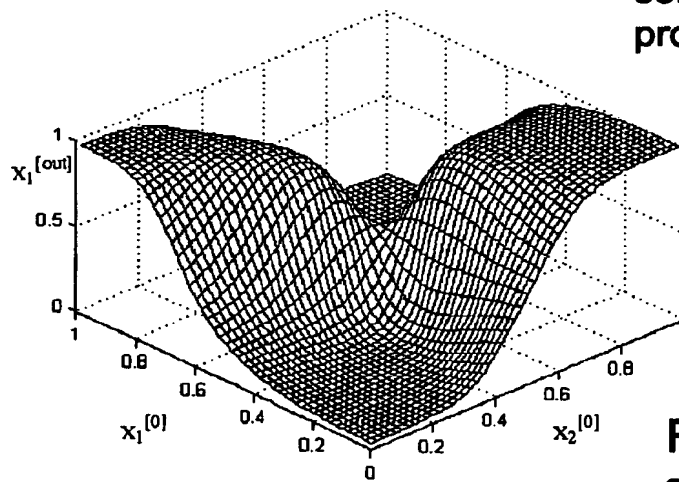


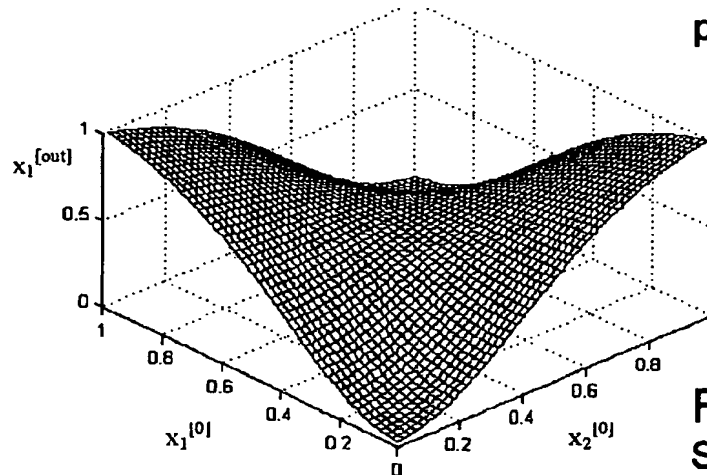
Figure 3 – Node variables for the  $j$ -th node

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**Figure 5 – BP  
solution of XOR  
problem**



**Figure 6 – RBF  
solution of XOR  
problem**



**Figure 7 –  
SN solution of  
XOR problem.**

Figure 10 – Back-propagation solution of the two spirals problem.

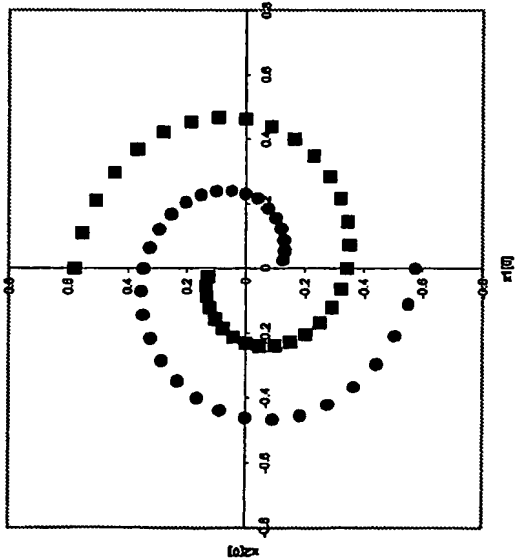


Figure 8 – The two spirals problem.

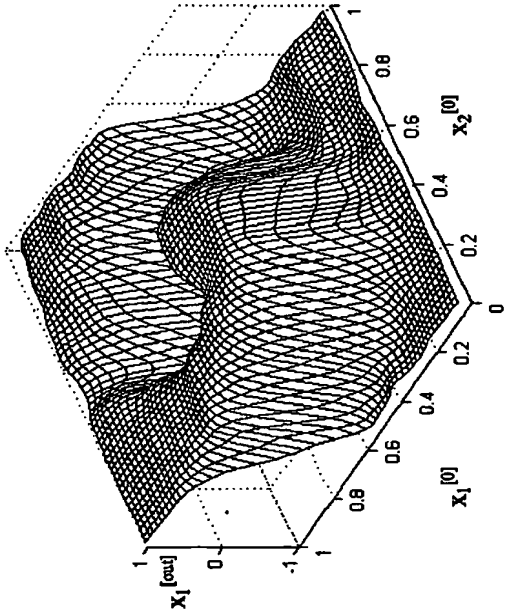
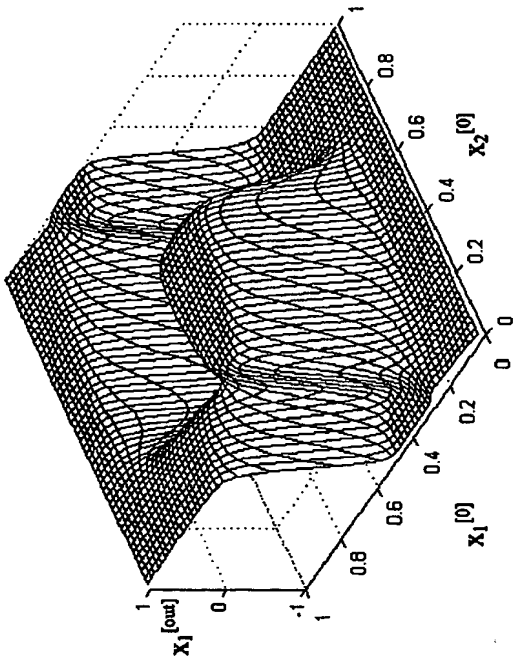


Figure 9 – Sine Network solution of the two spirals problem.

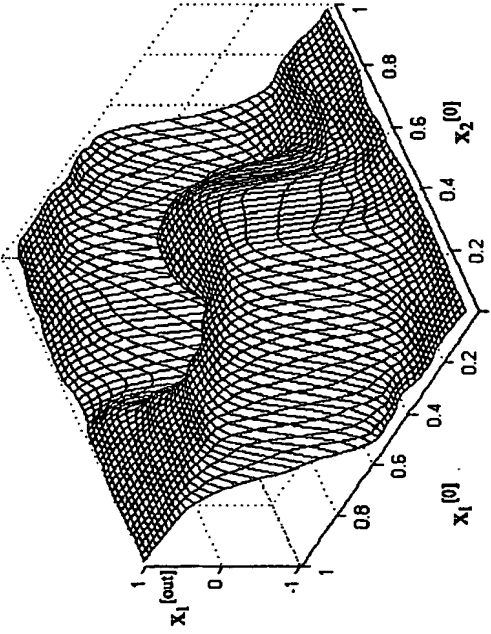


Fig. 11a – SN solution of Spiral problem with weight range (-1,1)

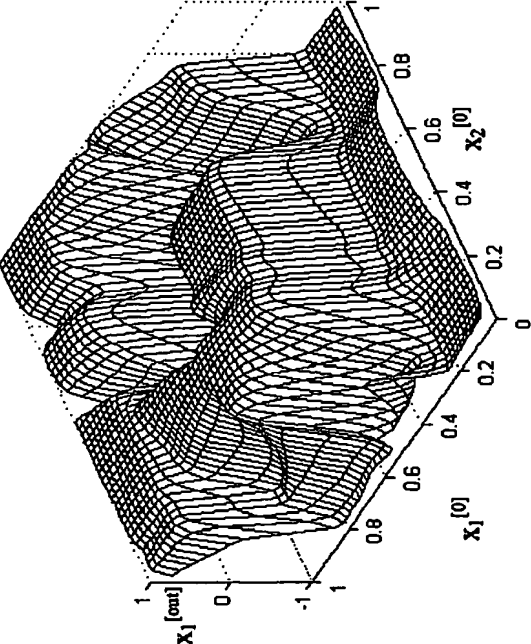


Figure 11c – SN solution of Spiral problem with weight range(-10,10)

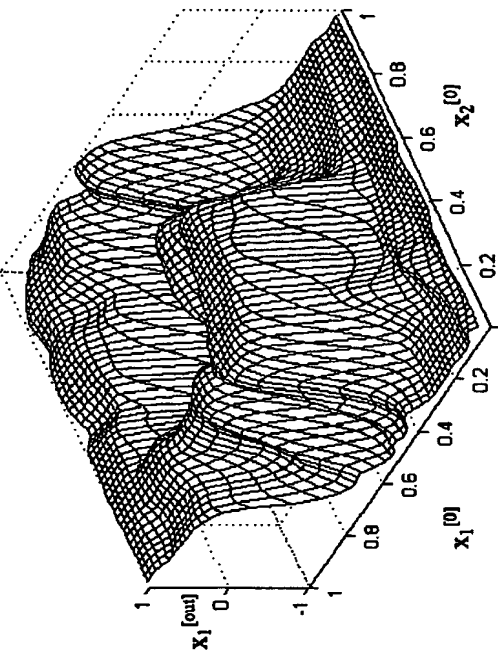


Fig. 11b – SN solution of Spiral problem with weights range  $(-\pi, \pi)$

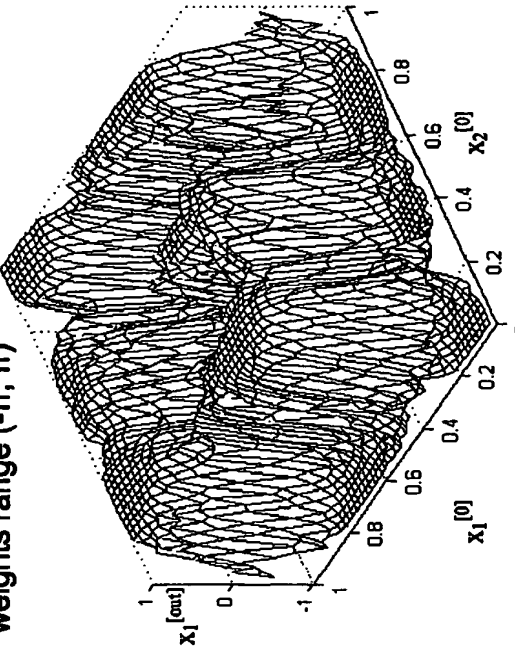


Fig. 11d – SN solution of Spiral problem with weight range  $(-20,20)$

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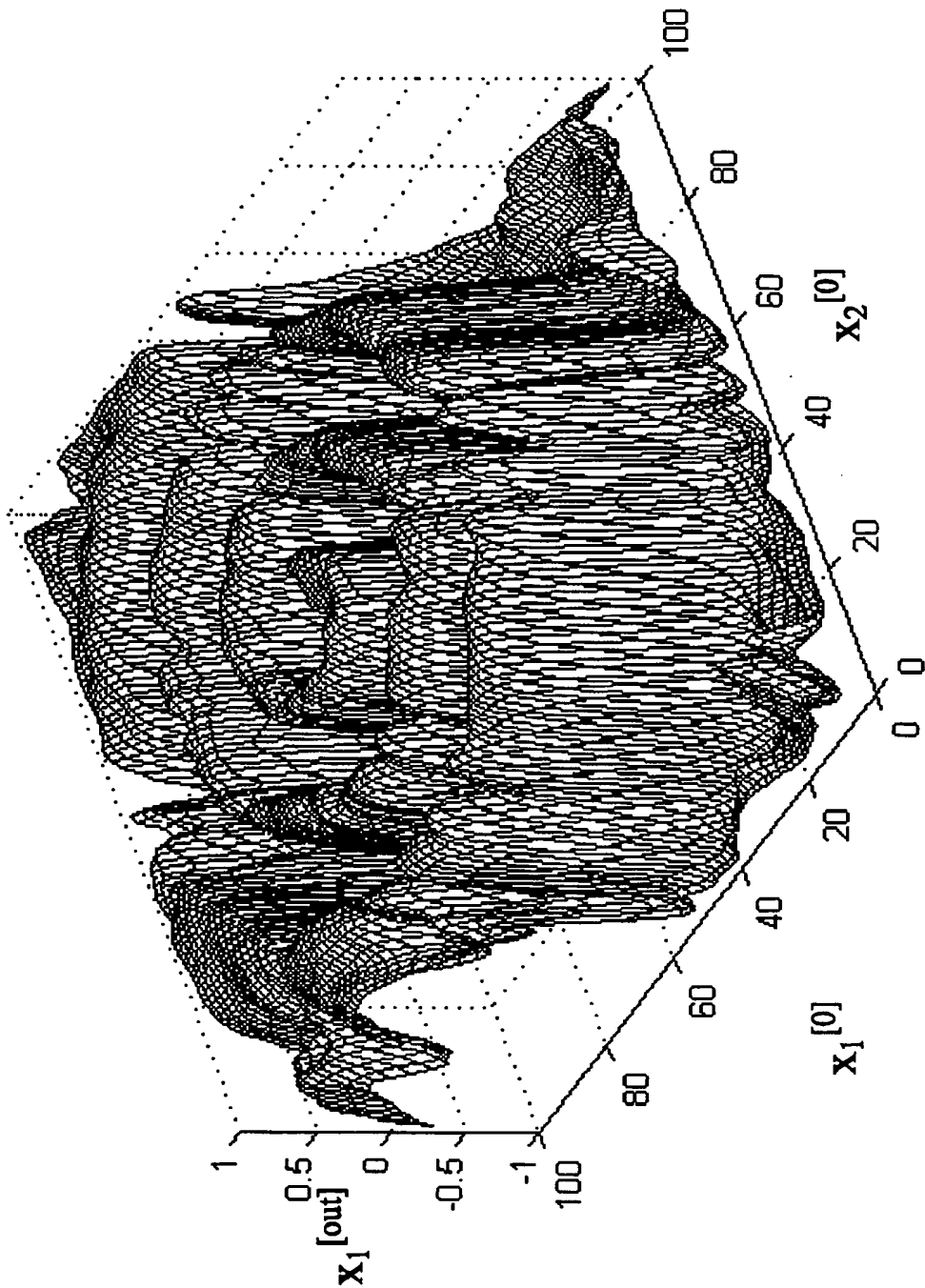


Figure 12 – Solution of Sine Net on spiral problem with 192 points.

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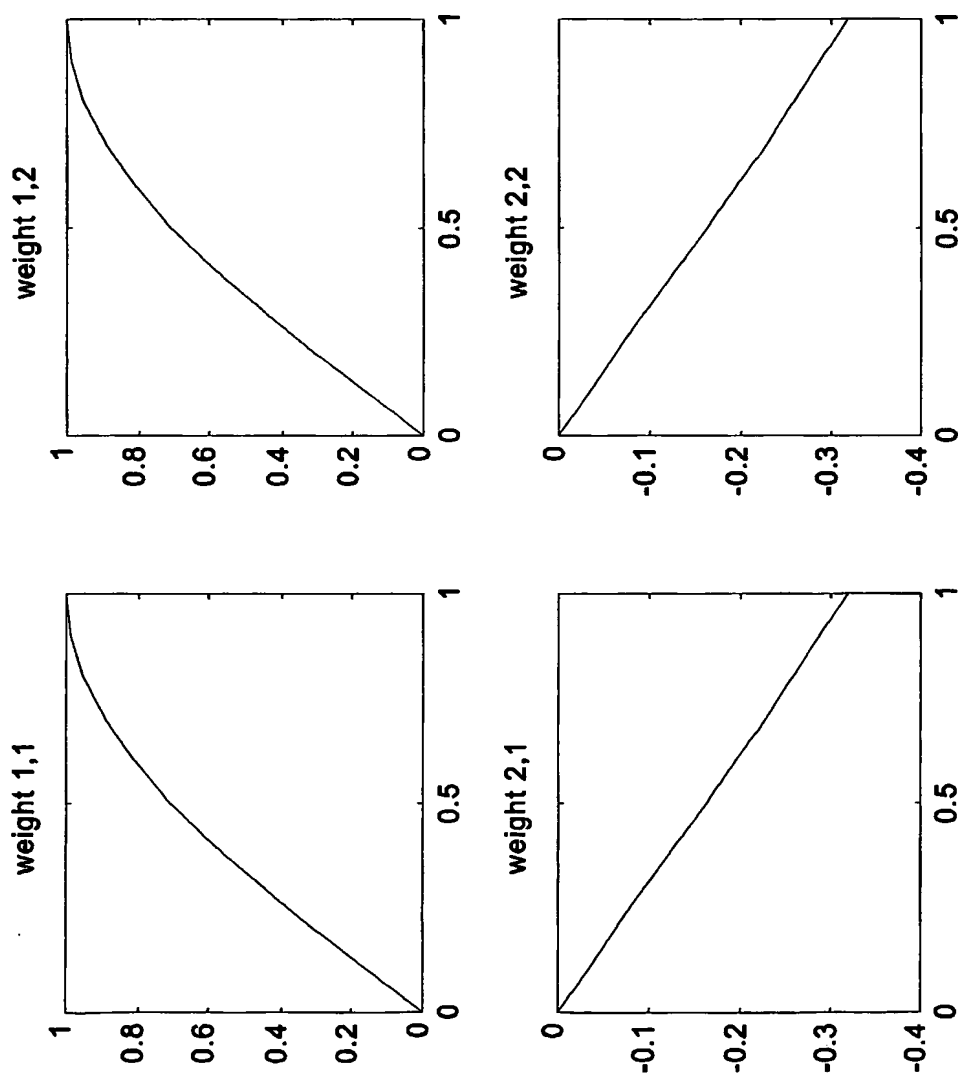


Figure 13 – SN weight transfer function from input to hidden nodes

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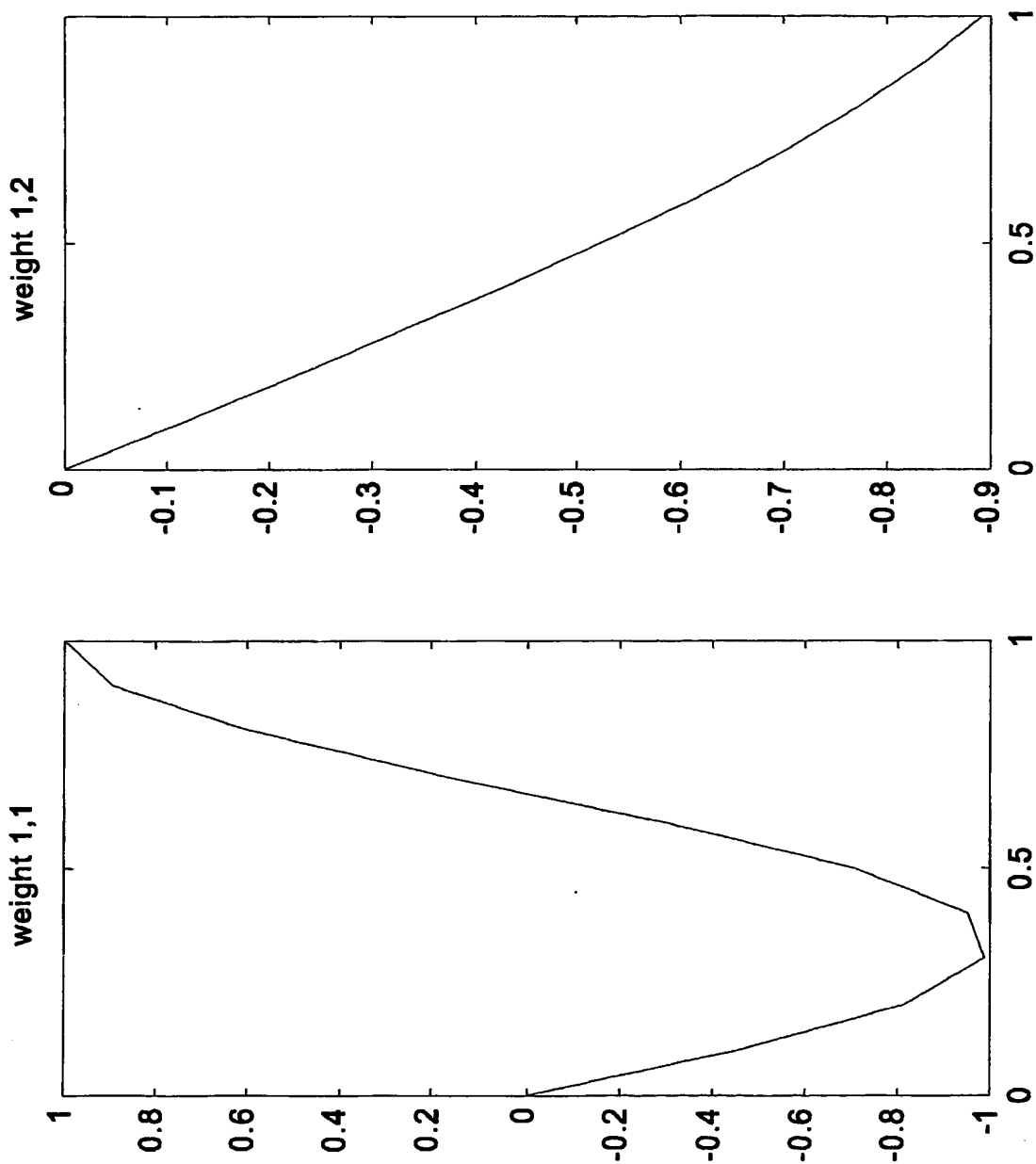


Figure 14 – SN\_weight transfer function from hidden to output nodes



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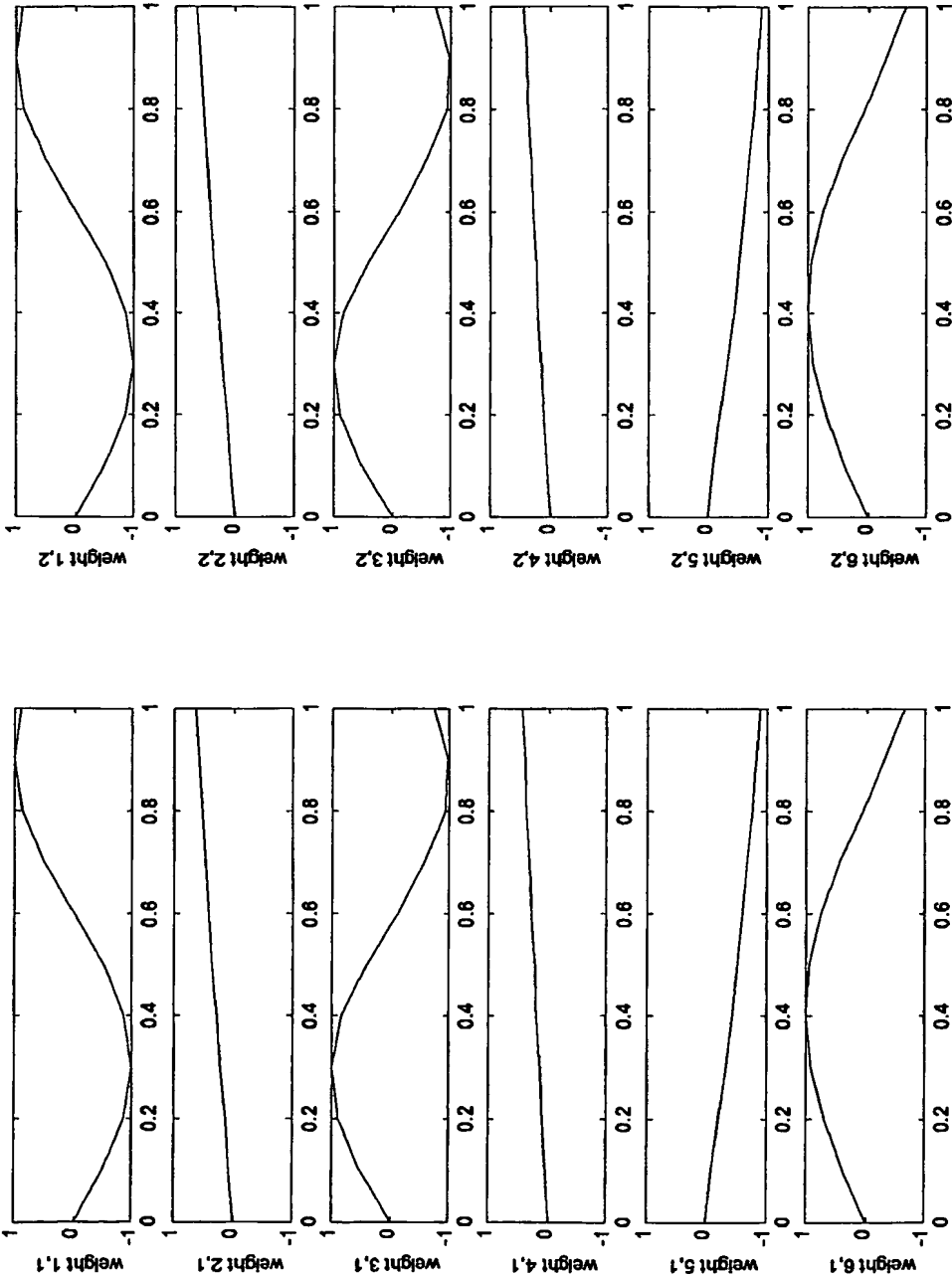


Figure 15 – SN weight transfer function from input to hidden nodes

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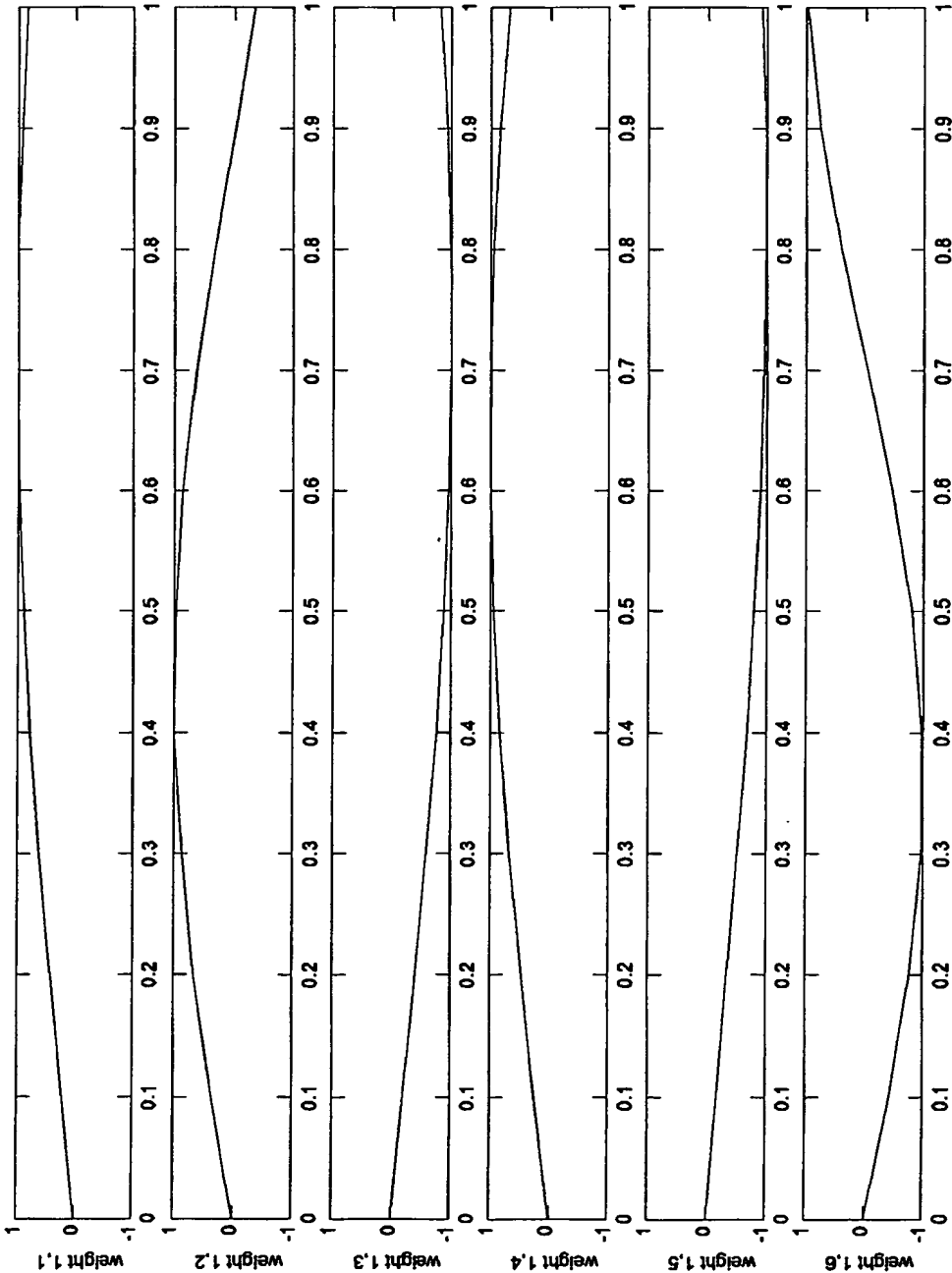


Figure 16 – SN weight transfer function from hidden to output nodes

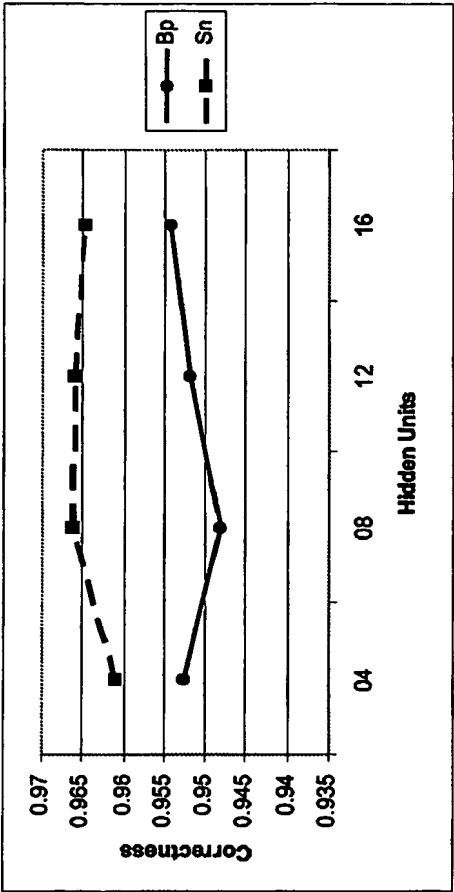


Figure 17 – Comparison between Bp and SN network during the first trial, correctness on hidden units number

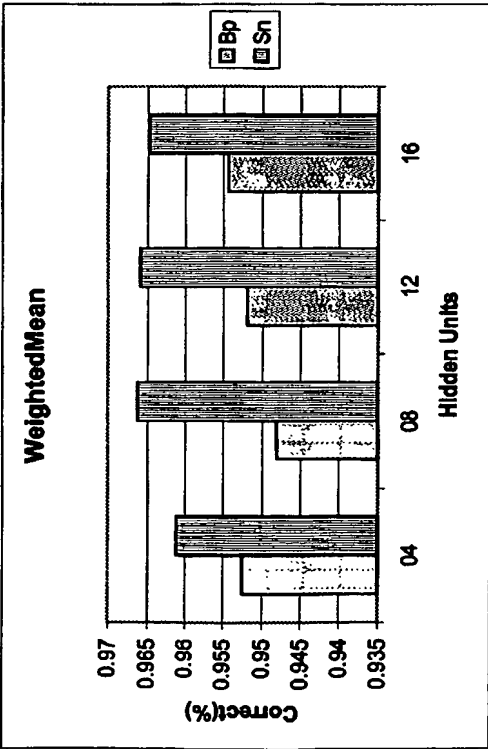


Figure 18 - Result Comparison between BP and SN on the Breast Cancer dataset.

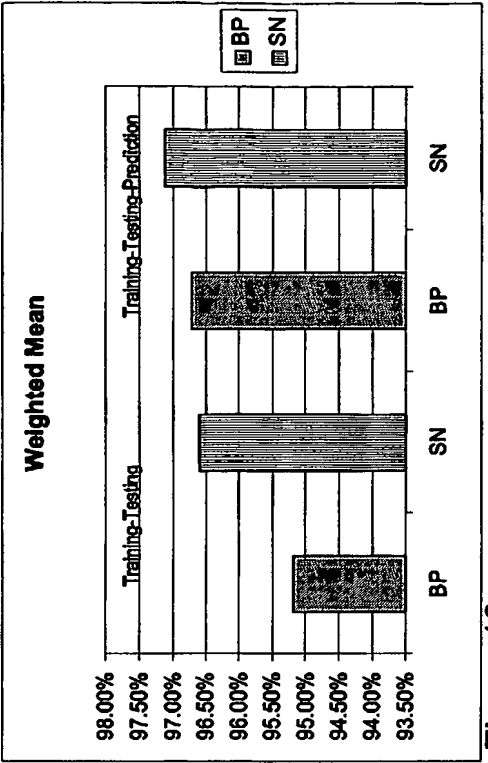


Figure 19 – Result Comparison between BP and SN on the Breast Cancer dataset using "Early Stopping"

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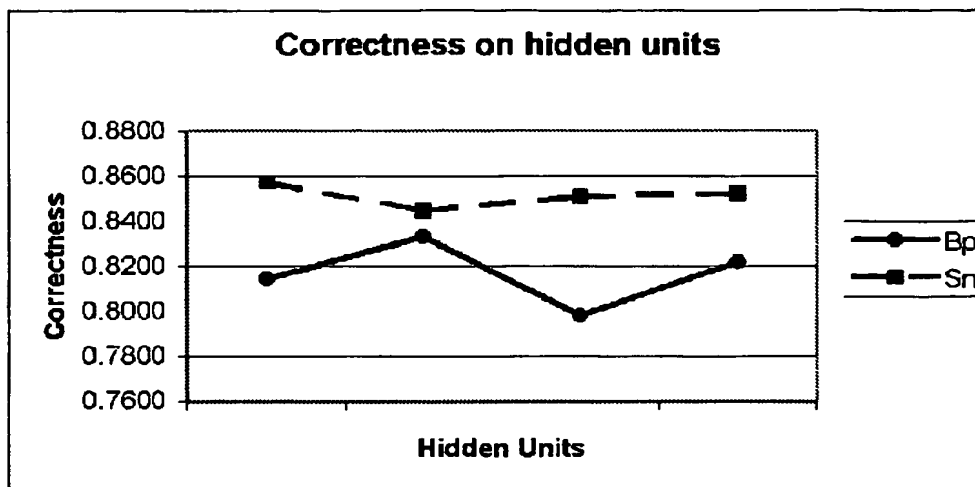


Figure 20 – Comparison between Bp and SN network during the first trial, correctness on hidden units number

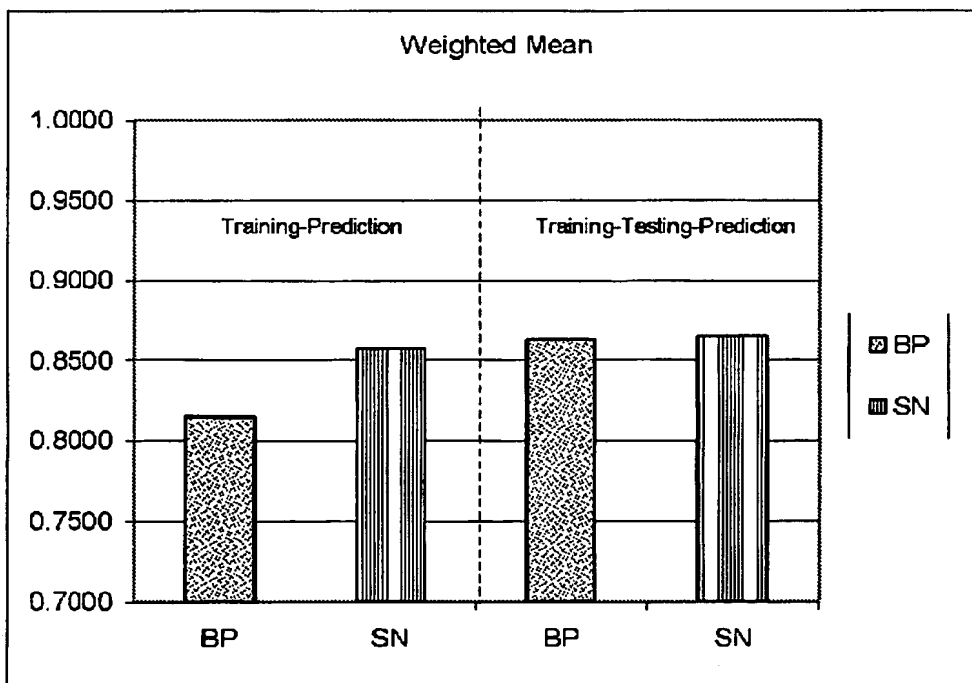


Figure 21 – Result Comparison between BP and SN on the Australian Credit Scoring dataset, with "Early Stopping" (Tr-Ts-Pr) and without (Tr-Pr)